



The image shows a title slide for a presentation. It features a light beige background with a subtle wood-grain texture. A white rectangular box with a thin green border is centered on the page. Inside this box, the text "Solar Decathlon 2021" is written in a black serif font, followed by a horizontal line, and then "Competition Presentation" is written in the same font. Two thick, dark brown horizontal bars extend from the left and right edges of the white box towards the center, partially overlapping the text area.

# Solar Decathlon 2021

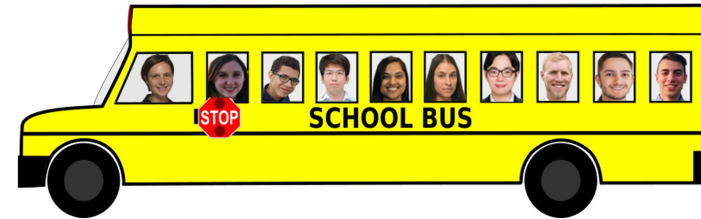
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## Competition Presentation

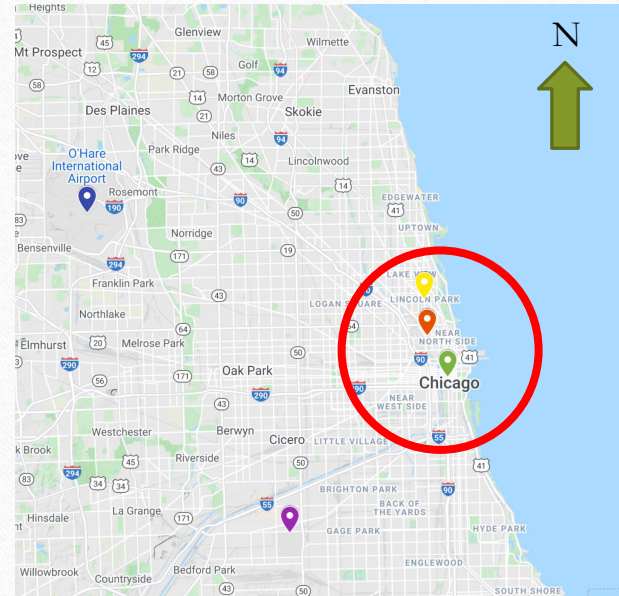
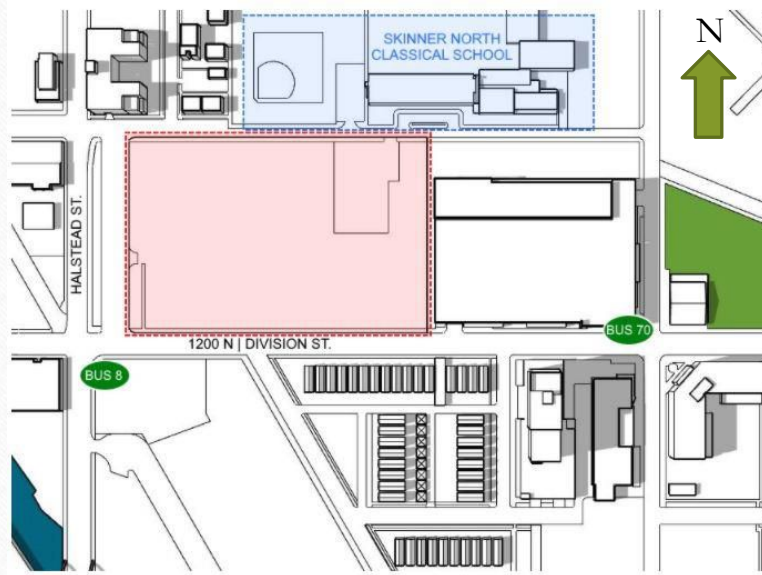
# Meet the Team

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- Heather Pecho - Team Lead, B.S. Chemical Eng, M.E. Environmental Eng
- Chris W Hurlbut - M.Eng. Architectural Eng
- Donghyun Lee - PhD Architecture
- Tian Li- PhD Architecture
- Kohl Linder - B.S. Architectural Eng
- William Polenc-Busby -B.S. Architectural Eng, M.E. Structural
- Margarita Ramirez-Rodriguez - B.S. Arch. Eng, M.E. Building Systems
- Alouki Shah - B.S. Arch. Eng ME Building Systems
- Jacob D. Sorenson - B.S. Architectural Eng - Building Systems

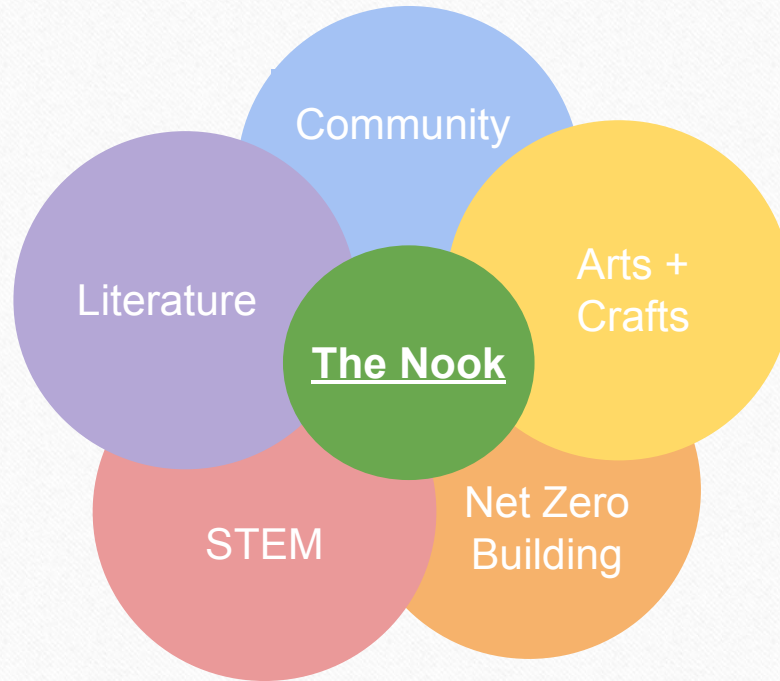


# Site Analysis

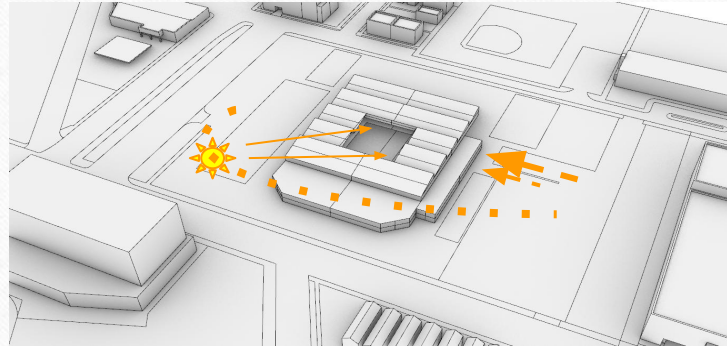
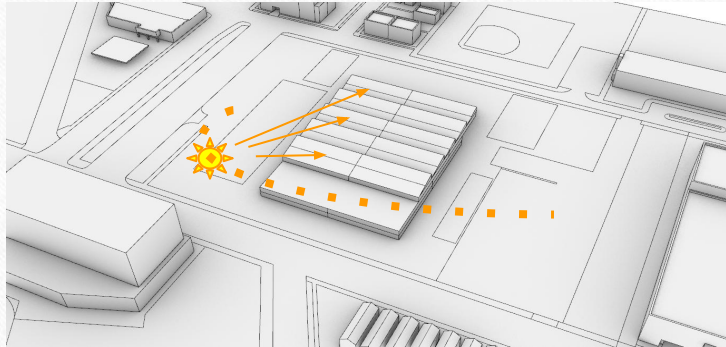
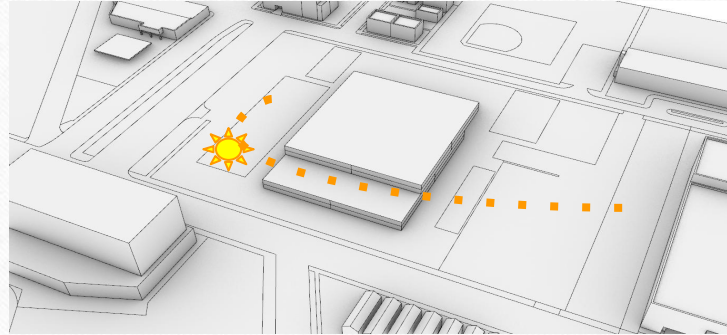
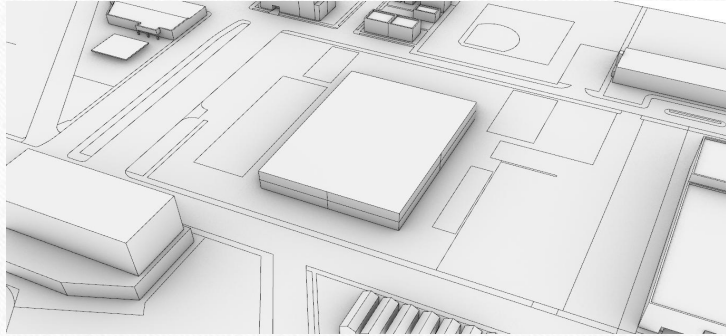




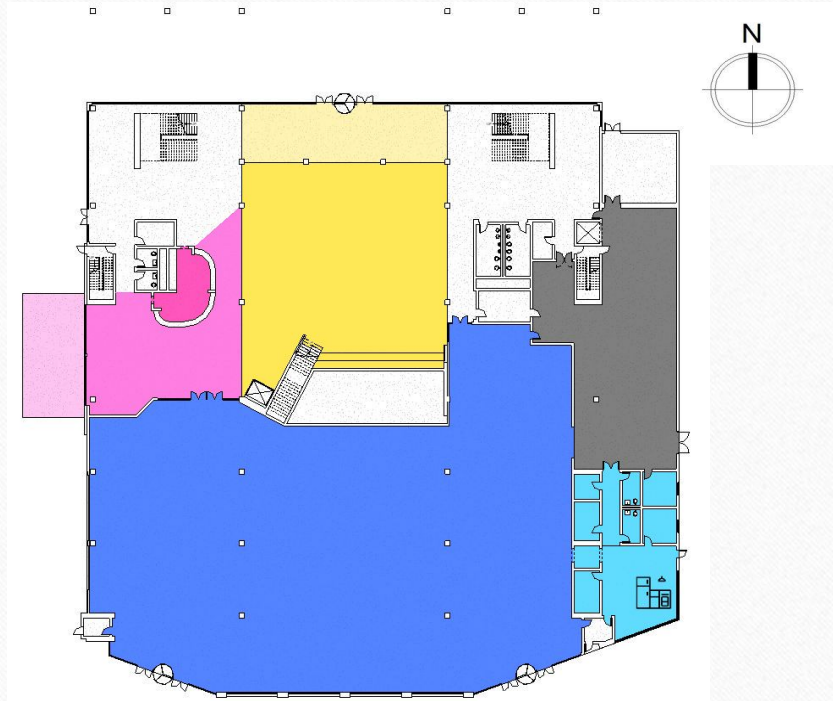
# Occupant Experience



# Architecture



# Architecture



**Retail Space**  
20400 S.F.

**Office Block**  
2100 S.F.

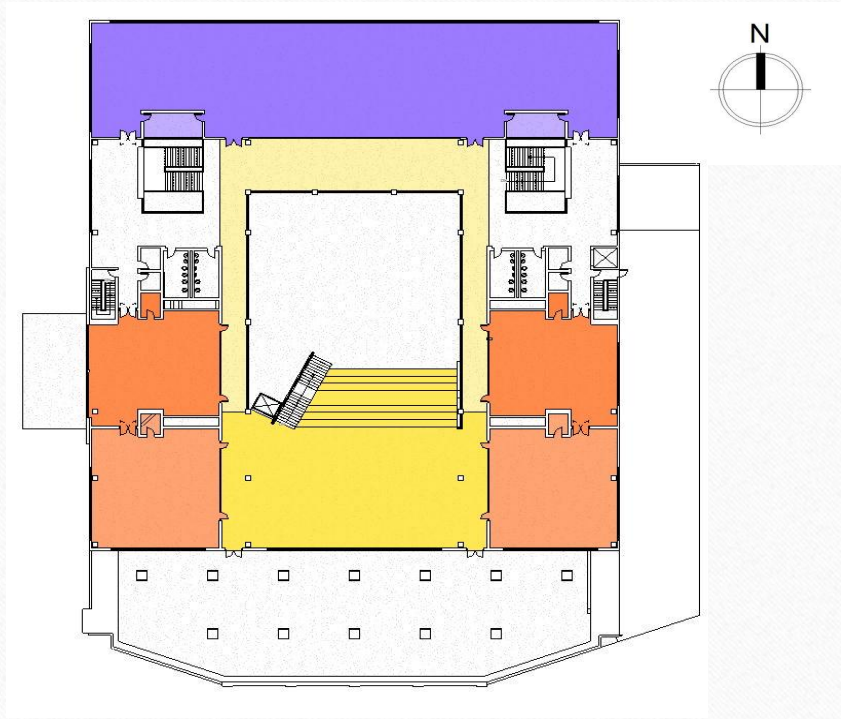
**Storage**  
4000 S.F.

**Atrium**  
7500 S.F.

**Cafe & Kitchen**  
3200 S.F.



# Architecture



**Upper Atrium**  
5500 S.F.

**Multipurpose**  
2 x 2100 S.F.  
2 x 2300 S.F.

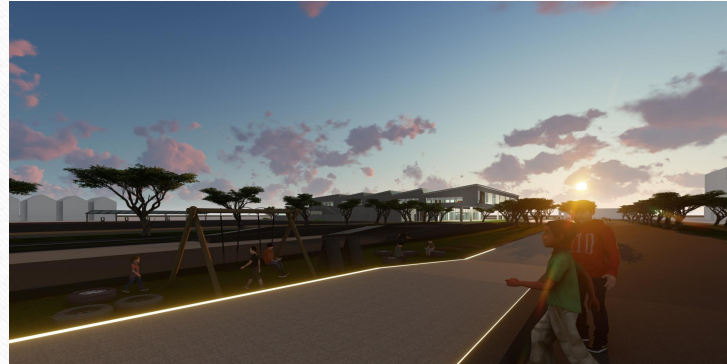
**Gallery**  
9000 S.F.

# Architecture

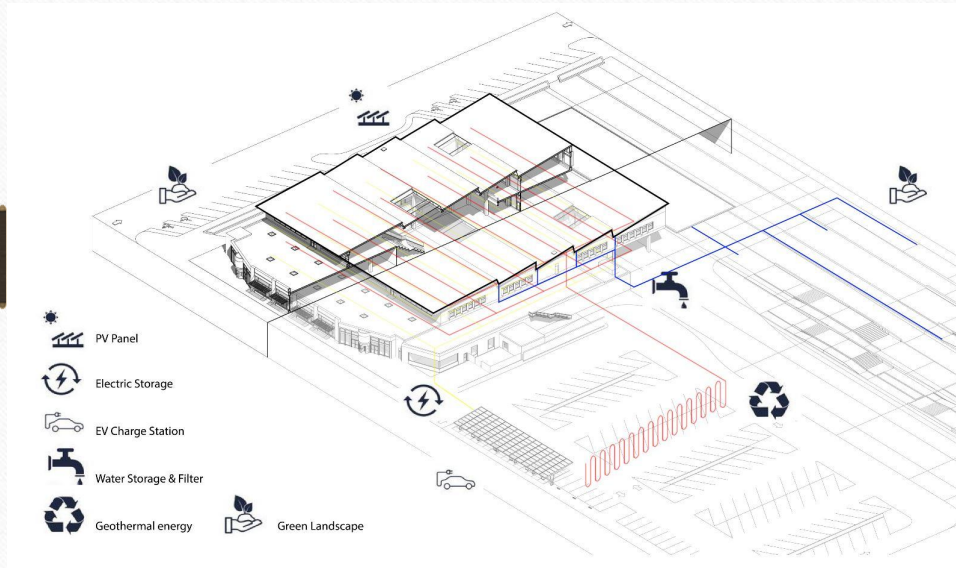




# Architecture

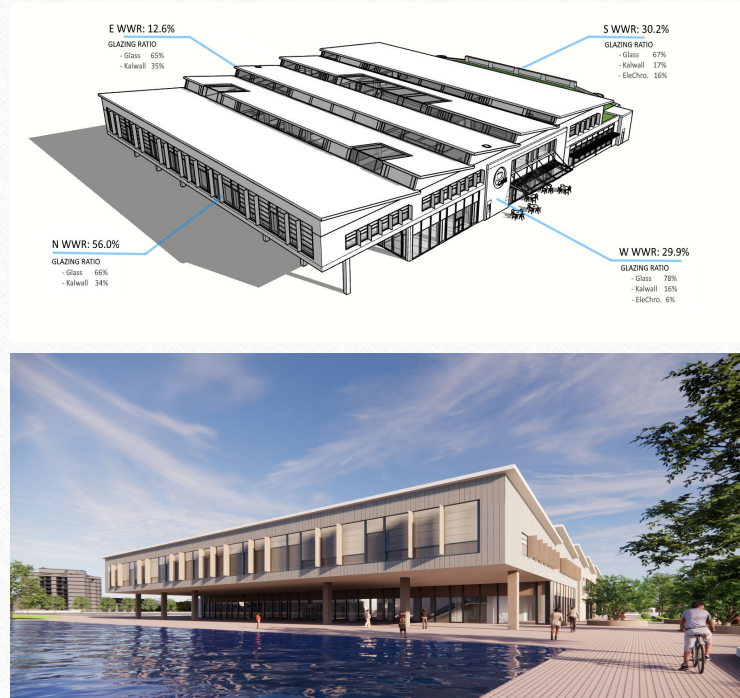
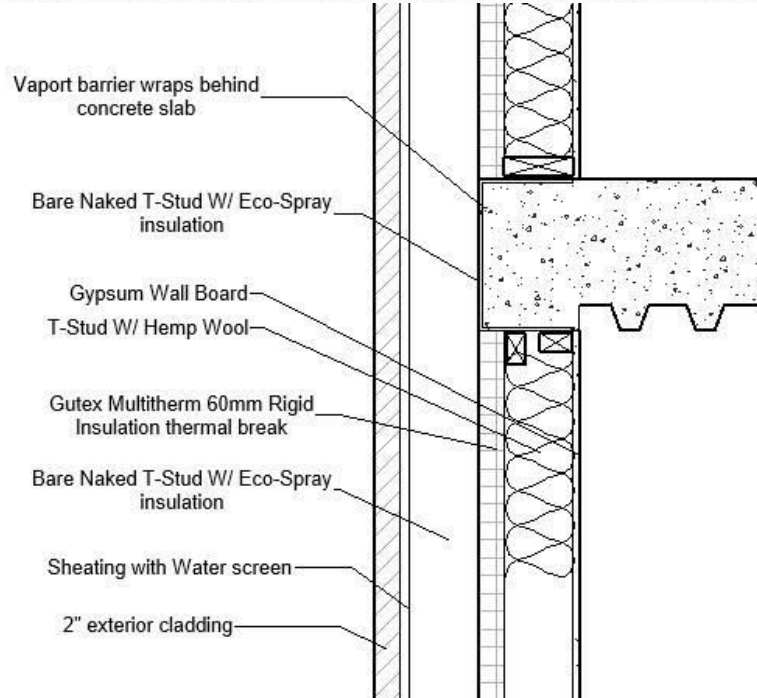


# Integrated Performance



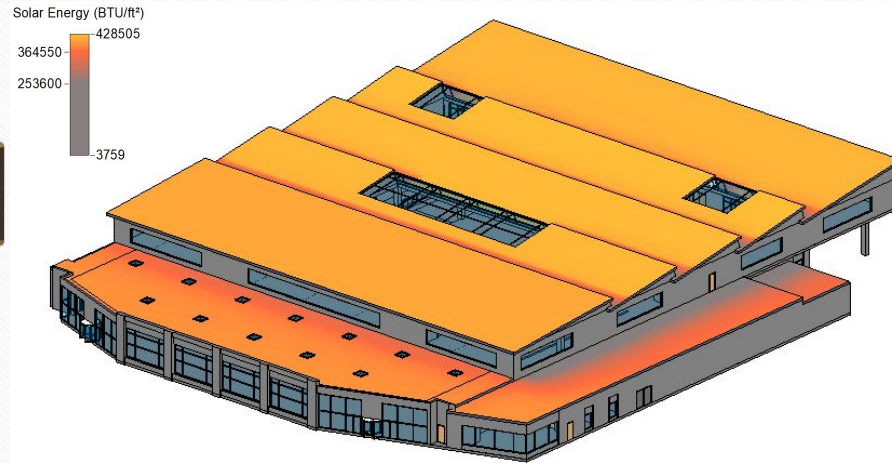


# Engineering

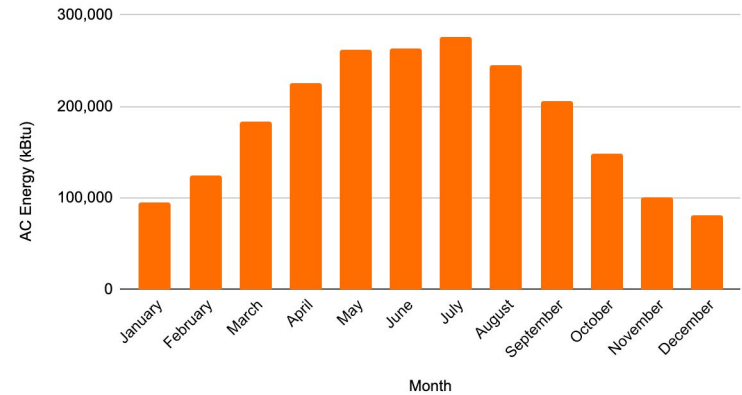




# Engineering

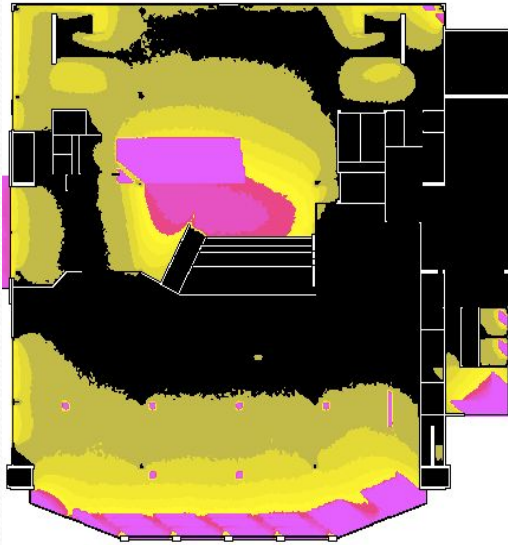


AC Energy (kBtu) vs. Month

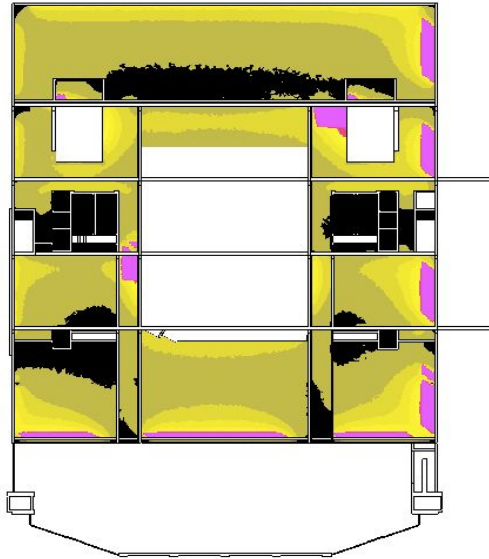


# Engineering

First Floor



Second Floor



Value	Color below value
Max	Magenta
Auto	RGB 255-000-24
Auto	RGB 255-000-22
Auto	RGB 255-000-19
Auto	RGB 255-000-12
3001	Red
Auto	RGB 255-127-00
Auto	RGB 255-143-00
Auto	RGB 255-159-00
Auto	RGB 255-191-00
3000	Yellow
Auto	RGB 248-248-00
Auto	RGB 240-240-01
Auto	RGB 224-224-03
Auto	RGB 192-192-06
300	Gray 128-128-12
299	Black
Min	

Preview



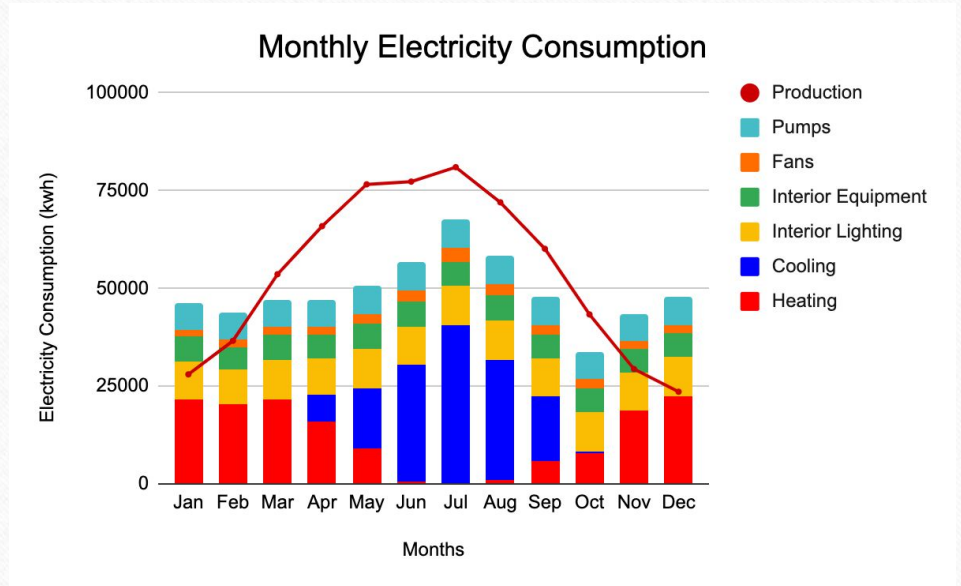
# Energy Analysis

Building Area: 86,000 S.F.

Site EUI: 25.63 kBtu/S.F./year

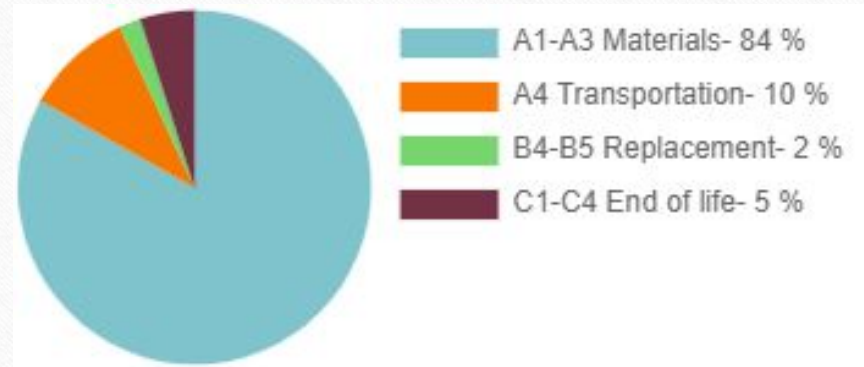
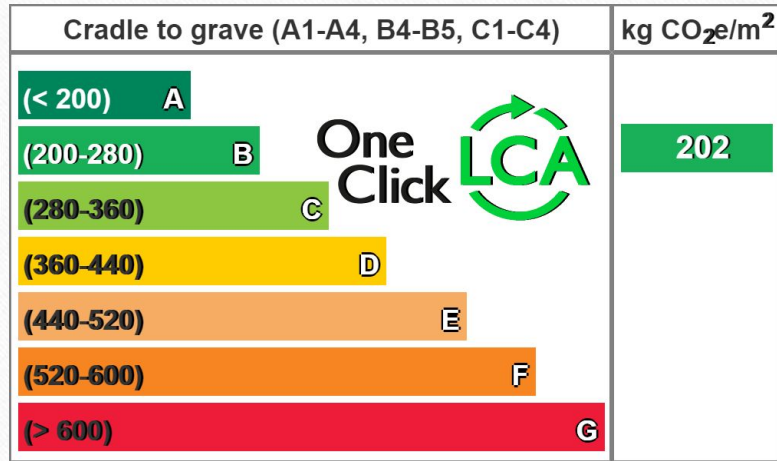
Total Energy Consumption:  
2,100,000 kBtu

Total Energy Production:  
2,210,000 kBtu





# Embodied Environmental Impact

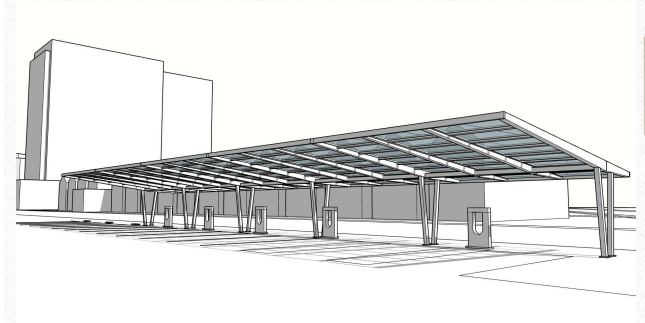
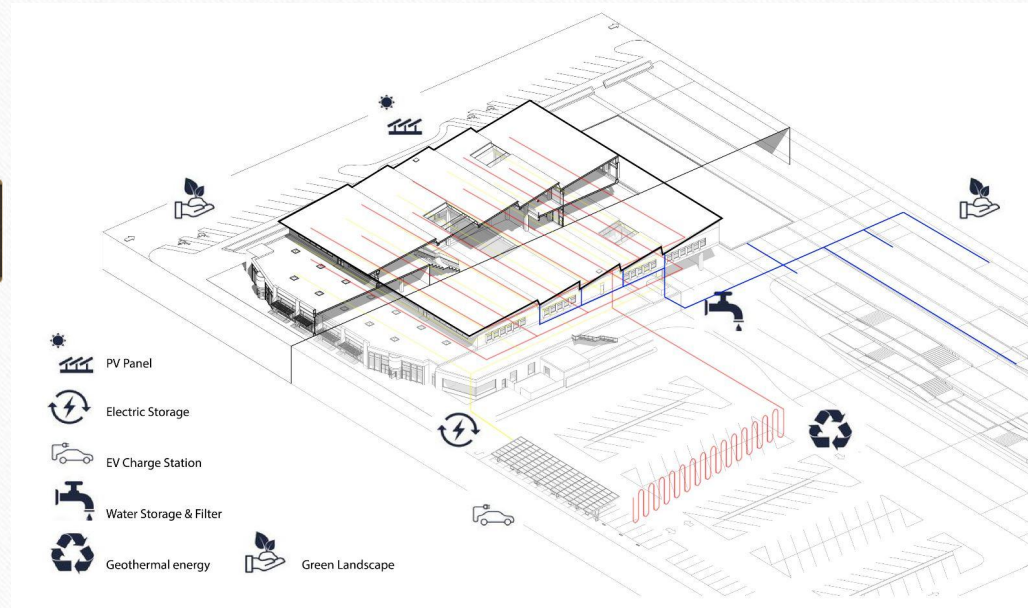


# Comfort and Environmental Quality

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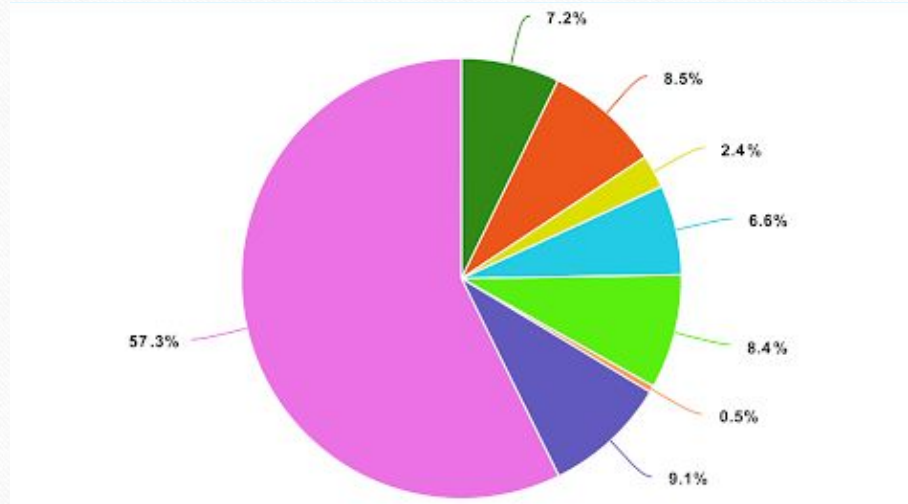


# Durability and Resilience





# Market Analysis



Structural Openings Finishings Electrical Exterior Work  
Stormwater System Overhead and Profit HVAC

Line Item Estimate  
\$13.9 million

\$170 per S.F.

# Thank you!



U.S. DEPARTMENT OF  
**ENERGY**



Special thanks to: Professor Edoarda, Mina Grey, Brett Horin, Luis Lara, Sachin Anand, Professor Heidarinejad, Professor Lemming, Professor Rohter, and Professor Stephens